

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/054283 A3

(51) International Patent Classification⁷: **H04L 12/28**

RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:
PCT/IB2003/005517

(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(22) International Filing Date:
27 November 2003 (27.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/432,534 11 December 2002 (11.12.2002) US

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES,
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent
(BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG)

(71) Applicant (*for all designated States except US*): **KONIN-
KLJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **ZHONG, Zhun**
[US/US]; P.O. Box 3001, Briarcliff Manor, NY
10510-8001 (US).

(74) Common Representative: **KONINKLIJKE PHILIPS
ELECTRONICS N.V.**; c/o Halajian, Dicran, P.O. Box
3001, Briarcliff Manor, NY 10510-8001 (US).

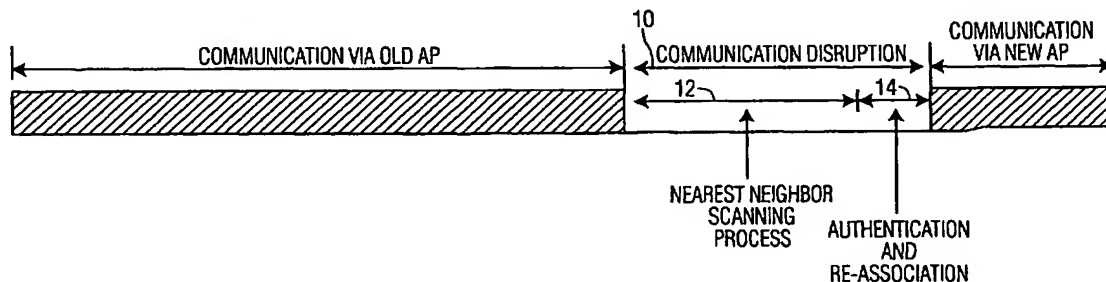
(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,

Published:

— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR PERFORMING A FAST HANDOFF IN A WIRELESS LOCAL AREA NETWORK



(57) Abstract: Disclosed is a system and method for performing a fast channel scan so as to minimize the communication disruption period (10) which occurs during a handoff of a mobile station (STA) (20-23) in a wireless local area network (WLAN) (100). Each mobile station (STA) includes an associated nearest-neighbor table identifying nearest-neighbor APs (14-16) in the network to the AP with which the STA is currently associated. When a STA (20-23) performs a handoff, its nearest-neighbor table is used to perform a prioritized search of those channels of operation included in the table belonging to nearest-neighbor APs (14-16). In this manner, by prioritizing the search to first search the channels of operation belonging to nearest-neighbor APs (14-16), there is a greater likelihood of locating a candidate ap (14-16) to form an association with in less time as compared with the prior art search method of blindly searching each and every operating channel in the network.



(88) Date of publication of the international search report:
29 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IB 03/05517

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 888 026 A (NOKIA MOBILE PHONES LTD) 30 December 1998 (1998-12-30) abstract; claim 1	1, 18
Y	US 5 838 730 A (CRIPPS PETER K) 17 November 1998 (1998-11-17) column 26, line 45 - line 67 column 27, line 1 - line 28 column 28, line 35 - line 45 column 29, line 31 - column 30, line 61 ----- -/--	10, 13, 15, 17, 18, 23, 26, 28, 30

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

3 November 2004

Date of mailing of the international search report

16/11/2004

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Danielidis, S

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/B 03/05517

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 170 970 A (NTT DOCOMO INC) 9 January 2002 (2002-01-09) column 2, line 27 - line 43 column 3, line 1 - line 29 column 12, line 42 - column 13, line 12 column 15, line 16 - line 40	1,10,13, 15,17, 18,23, 26,28,30
A	US 6 332 077 B1 (HSU YI-SHOU ET AL) 18 December 2001 (2001-12-18) abstract; figure 8 column 4, line 63 - column 5, line 61 column 6, line 17 - line 23	1-30
P,Y	ZHUN ZHONG-PHILIPS: "RRM and Roaming Support" 'Online! 14 April 2003 (2003-04-14), XP002299879 Retrieved from the Internet: URL:grouper.ieee.org/groups/802/11/documen ts> 'retrieved on 2004-11-03! the whole document	1-30
P,Y	MARTIN LEFKOWITZ AND MALIK AUDEH-TRAPEZE NETWORKS: "Site Reporting" 'Online! 7 March 2003 (2003-03-07), XP002299877 Retrieved from the Internet: URL:grouper.ieee.org/groups/802/11/documen ts> 'retrieved on 2004-11-03! the whole document	1-30

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 03/05517

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0888026	A	30-12-1998	FI 972736 A	26-12-1998
			AU 7920898 A	19-01-1999
			CN 1261510 T	26-07-2000
			EP 0888026 A2	30-12-1998
			WO 9901005 A1	07-01-1999
			JP 11075237 A	16-03-1999
			US 6510146 B1	21-01-2003
US 5838730	A	17-11-1998	AU 7210894 A	17-01-1995
			WO 9501020 A1	05-01-1995
			US 5729680 A	17-03-1998
			US 5717688 A	10-02-1998
			US 5875186 A	23-02-1999
EP 1170970	A	09-01-2002	JP 2002084567 A	22-03-2002
			EP 1170970 A1	09-01-2002
			US 2002022482 A1	21-02-2002
US 6332077	B1	18-12-2001	NONE	